

WE CLAIM:

Sub A2

1. An apparatus for protecting a circuit from a transient event, comprising:
a signal transfer circuit arranged to receive a supply signal and output a first signal during normal operation to a pin of the circuit and to a charge storage circuit, the charge storage circuit arranged to receive the first signal and output a second signal during the transient event to the pin of the circuit, the charge storage circuit storing enough charge to provide the second signal during the transient event.

Sub D1

2. The apparatus of Claim 1, wherein the charge storage circuit charges during normal operation, and discharges during the transient event.

3. The apparatus of Claim 1, wherein the signal transfer circuit comprises a transistor circuit arranged to provide the first signal.

4. The apparatus of Claim 1, wherein the signal transfer circuit comprises a diode circuit to provide the first signal.

5. The apparatus of Claim 1, wherein the charge storage circuit comprises a capacitor circuit, the capacitor circuit storing enough charge to provide the second signal during the transient event.

6. The apparatus of Claim 5, wherein the charge storage circuit is arranged to receive the first signal during normal operation and charge to the first signal during normal operation.

7. The apparatus of Claim 3, wherein the transistor circuit, further comprises a first transistor and a second transistor arranged to prevent drain from the charge storage circuit.

Sub A3

8. An apparatus for protecting a circuit from a transient event, comprising:

a signal transfer circuit arranged to receive a supply signal and output a first signal during normal operation;

a charge storage circuit arranged to receive a bias signal and the first signal, the charge storage circuit providing a second signal during the transient event; and

an inverting circuit arranged to receive the first signal, second signal, and the bias signal, the inverting circuit coupled to a pin of the circuit, the inverting circuit arranged to hold the pin of the circuit high during a startup of the circuit, and low during the transient event and during normal operation.

9. The apparatus of Claim 8, wherein the inverting circuit is a Schmidt trigger.

10. The apparatus of Claim 8, wherein the charge storage circuit is a capacitor circuit.

11. The apparatus of Claim 8, wherein the storage transfer circuit is a diode circuit.

12. The apparatus of Claim 8, wherein the storage transfer circuit is a transistor circuit.

13. The apparatus of Claim 12, wherein the transistor circuit, further comprises a first transistor and a second transistor arranged to prevent drain from the charge storage circuit.

14. An apparatus for protecting a logic pin of a circuit from changing logic states during a transient event, comprising:

a complementary switch that is arranged to receive an input logic signal and output an output logic signal during normal operation; and

a charge storage circuit arranged to provide a secondary logic signal during the transient event.

Sub D, 15. The apparatus of Claim 14, wherein the charge storage circuit is arranged to receive the output logic signal during normal operation, the charge storage circuit arranged to charge to the output logic signal.

16. The apparatus of Claim 15, wherein the complementary switch comprises a transistor circuit arranged to prevent drain of the charge storage circuit.

Sub Ab 17. A method for rejecting a transient event from a circuit, comprising:
receiving a supply signal;
monitoring the supply signal for the transient event;
determining when the circuit is in normal operation, and when the transient event is occurring;

providing a first signal from a signal transfer circuit to a pin of the circuit when it is determined that the circuit is in normal operation, and
providing a second signal from a charge storage circuit to the pin of the circuit when it is determined that the transient event is occurring.

18. An apparatus for protecting a pin of a circuit during a transient event, comprising:

a means for receiving a supply signal;
a means for monitoring the supply signal to determine the transient

event;

a means for determining when the circuit is in normal operation and when the transient event is occurring:

a means for providing a first signal from a signal transfer circuit to a pin of the circuit when it is determined that the circuit is in normal operation, and

a means for providing a second signal from a charge storage circuit to the pin of the circuit when it is determined that the transient event is occurring.

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